

Notice of Allowability

Application No.

10/752,833

Examiner

Joni Hsu

Applicant(s)

ZERPHY ET AL.

Art Unit

2671

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to papers received December 15, 2005.
2. ☒ The allowed claim(s) is/are 16-34.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date ____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date ____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other ____


Kee M. Tung
Primary Examiner

DETAILED ACTION

Response to Amendment

1. Applicant's arguments, see page 9, filed December 15, 2005, with respect to Claims 16-20 have been fully considered and are persuasive. The objection of Claim 16 and the 35 U.S.C. 103(a) rejections of Claims 17-20 has been withdrawn.

Allowable Subject Matter

2. Claims 16-34 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

3. The prior art singly or in combination do not teach or suggest the display unit of Claim 15, wherein the display unit is configured to, upon receipt of a local message: check the address; and if the display unit is not the particular unit: decrement the address; and send the local message, with the decremented address, to the other display unit, as recited in Claim 16. Claims 17-20 depend from Claim 16, and therefore also contain allowable subject matter. The prior art also does not teach a sign display panel comprising a plurality of display units, each display unit respectively comprising a memory; and an interface configured to communicate messages, the method comprising the controller sending multiple frames of display data to the display units, the frames being contained in one or more messages of a first type; the display units respectively receiving and storing a plurality of the frames in memory upon receipt; the controller sending a display instruction to the display units through the interface, the display instruction instructing

the display units to display one frame of the stored frames, the display instruction being contained in a message of a second type; the display units respectively processing the one frame to update the display output device upon receipt of the display instruction, as recited in Claims 21 and 28. Claims 22-27, and 29-34 rely upon Claims 21 and 28, and therefore also contain allowable subject matter.

4. The closest prior art (Banks US005796376A) teaches a method of rapidly refreshing a sign display panel (Col. 7, lines 23-24; Col. 1, lines 8-11), the sign display panel comprising a controller (22, Figure 1); a plurality of display units (26), each display unit respectively comprising a display output device (Col. 3, line 55-Col. 4, line 3); and an interface (36, Figure 3) configured to communicate from the controller to the display units, the method comprising the controller sending a frame of display data to the display units through the interface; the display units respectively receiving a frame (Col. 4, line 61-Col. 5, line 18); the controller sending a display instruction to the display units through the interface, the display instruction instructing the display units to display the stored frame; the display units respectively receiving the display instruction (Col. 4, lines 61-65; Col. 5, lines 16-30); and the display units respectively processing the one frame to update the display output device (Col. 7, lines 19-28). However, Banks does not teach that each display unit respectively comprises a memory; and the interface is configured to communicate messages, and the display units respectively store a plurality of the frames in memory upon receipt; and upon receipt of the display instruction, the display units respectively process the one frame to update the display output device.

5. Another prior art (Dye US006002411A) teaches sending multiple frames of display data to the display unit through the interface (140, Figure 2; Col. 9, lines 9-18); the display unit respectively receiving and storing a plurality of the frames in memory upon receipt (Col. 39, lines 12-17; Col. 10, lines 52-63); sending a display instruction to the display unit through the interface; the display unit receiving the display instruction (Col. 39, lines 15-29; Col. 3, lines 60-65); and the display unit processing the one frame to update the display output device upon receipt of the display instruction (Col. 10, lines 11-22; Col. 26, lines 58-60; Col. 27, lines 4-10). However, Dye does not teach that this is for a sign display panel comprising a plurality of display units; and an interface configured to communicate messages.

6. Another prior art (Ong US005986622A) teaches a processor (4, Figure 1; Col. 5, lines 13-15) configured to receive, one or more messages of a first type, the one or more messages of the first type communicating a frame of display data (Col. 5, lines 2-5); store the received frame in the memory upon receipt (Col. 7, line 66-Col. 8, line 4), receive, a message of a second type containing a display instruction, the display instruction instructing the display unit to display the stored frame;¹ and process the one frame to update the display output device upon receipt of the display instruction (Col. 7, lines 39-65). However, Ong does not teach that each display unit respectively comprises a memory; and the display units respectively store a plurality of the frames in memory upon receipt; and upon receipt of the display instruction, the display units respectively process the one frame to update the display output device.

7. Another prior art (Edmonds US 20020118144A1) teaches that each display unit (26, 28, Figure 2) respectively comprises a memory (27, 29), and each display unit has an interface circuit (23, 25), and each interface circuit has an assigned address, and accepts only those data transmissions from graphics controller 22 which contain the address. Transmissions with any other address are ignored or passed by that device. The interface 23 for one display unit can receive a communication from graphics controller 22 and retransmit the communication to the interface 25 for the next display unit over a daisy-chain connection. The daisy-chain connection is implemented with serial data transmission [0013]. The addresses are transmitted through messages [0022]. However, Edmonds does not teach communicating and storing multiple frames of display data.

Prior Art of Record

The following prior art not relied upon is considered pertinent to Applicant's invention.

1. Banks (US005796376A) teaches an electronic display sign having a system bus architecture to accommodate the high speed transfer of display and control data over relatively long distances (Col. 2, lines 24-27).
2. Dye (US006002411A) teaches an integrated memory controller which includes advanced memory, graphics, and audio processing capabilities preferably comprised in a single logical unit (Col. 2, lines 29-32).

3. Ong (US005986622A) teaches a panel display system having the capability of interconnecting a plurality of different source devices to a plurality of display units connected in a mosaic-like manner to form a larger display area, wherein the display area can be arranged into a substantially limitless number of sizes and configurations (Col. 1, lines 45-50).
4. Edmonds (US 20020118144A1) teaches a method for allowing multiple display devices to be updated through a single display controller port over a single daisy-chain connection [0013].

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joni Hsu whose telephone number is 571-272-7785. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on 571-272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JH